Canadian COVID-19 death toll far exceeds official reports, according to analysis

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NATHAN DENETTE/THE CANADIAN PRESS

Canada's COVID-19 death toll could be more than twice as high as previously reported, with those living in low-income, high-density or racialized neighbourhoods accounting for a large proportion of missed cases, according to a new analysis of excess mortality rates.

The analysis, commissioned by the Royal Society of Canada, an organization made up of top Canadian researchers from different disciplines, and released on Tuesday, suggests the death toll outside of long-term care homes far exceeds official reports. It also calls on the federal and provincial governments to improve how they report deaths – currently, according to the researchers, a "slow, patchwork system" – so Canada can be better prepared for the next pandemic.

The researchers are also recommending that all people who die in Canada be tested for the novel coronavirus and that a task force be set up to look into why so many COVID-19 deaths have been missed.

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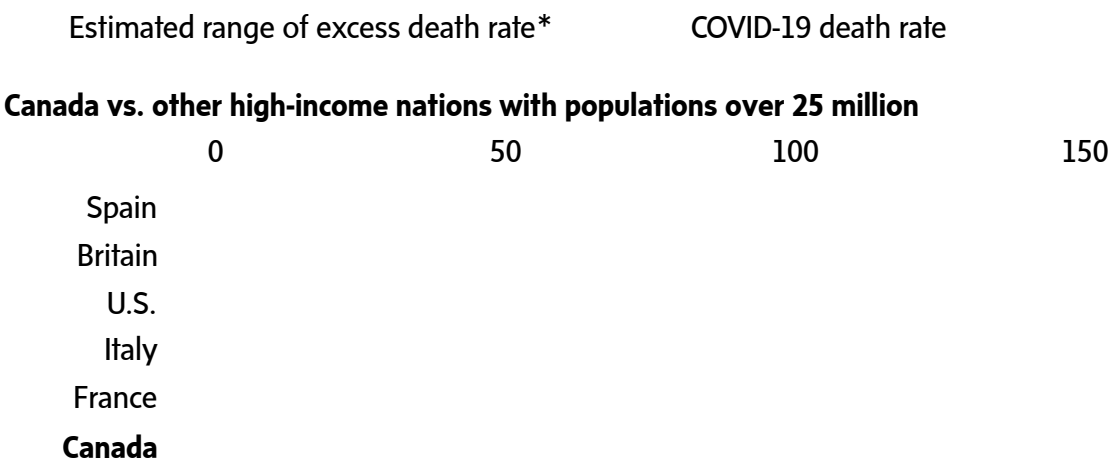
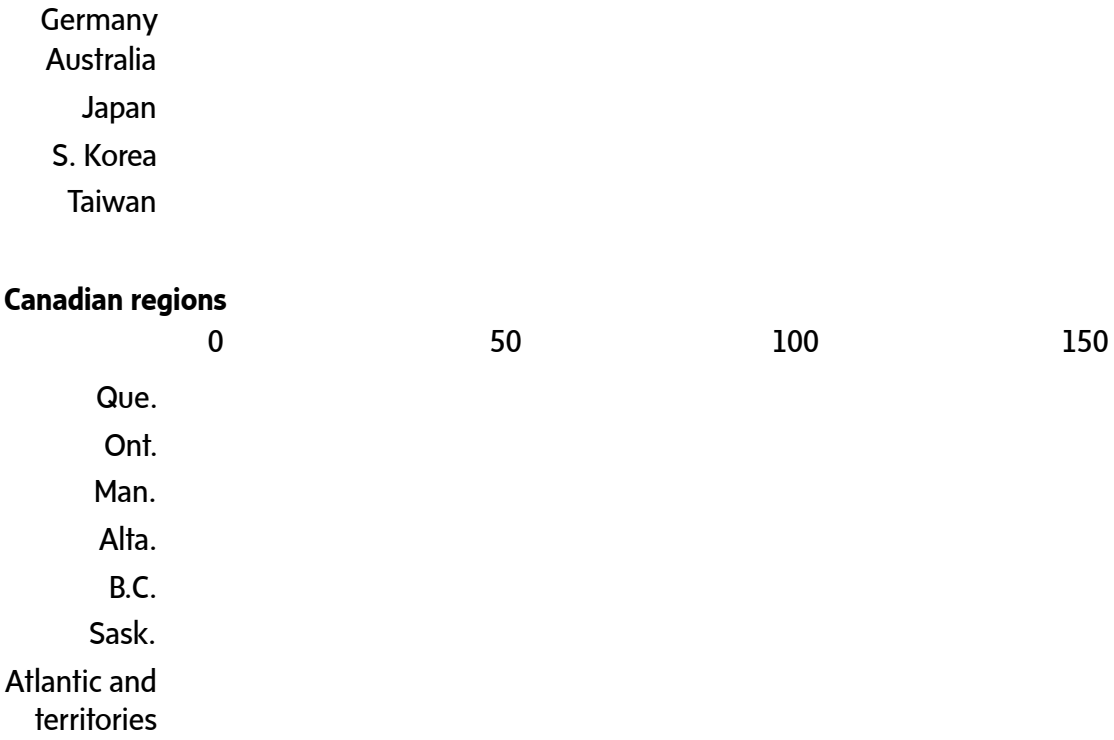
In April, The Globe and Mail reported on data showing the death toll from COVID-19 during the first nine months of the pandemic was inadvertently undercounted in some provinces, particularly in Western Canada.

In Tuesday's analysis, the researchers say an estimated 6,000 deaths caused by COVID-19 in Canadian residents 45 and older have been unaccounted for between the months of February and November, 2020.

Estimated excess death rates compared to reported COVID-19 death rates
Rate per 100,000, Feb. 1 to Nov. 14, 2020





*Calculated from reported weekly deaths for Feb. 1–Nov. 15, 2020, compared to deaths during corresponding weeks of 2015–2019.

THE GLOBE AND MAIL, SOURCE: THE ROYAL SOCIETY OF CANADA

The researchers estimate if Canada continued to miss mortalities at the same rate throughout the country's second and third waves, the national death toll would have been close to 57,000 people by early June, 2021. That would be more than double the latest official COVID-19 death toll, which was 26,237 as of Monday evening.

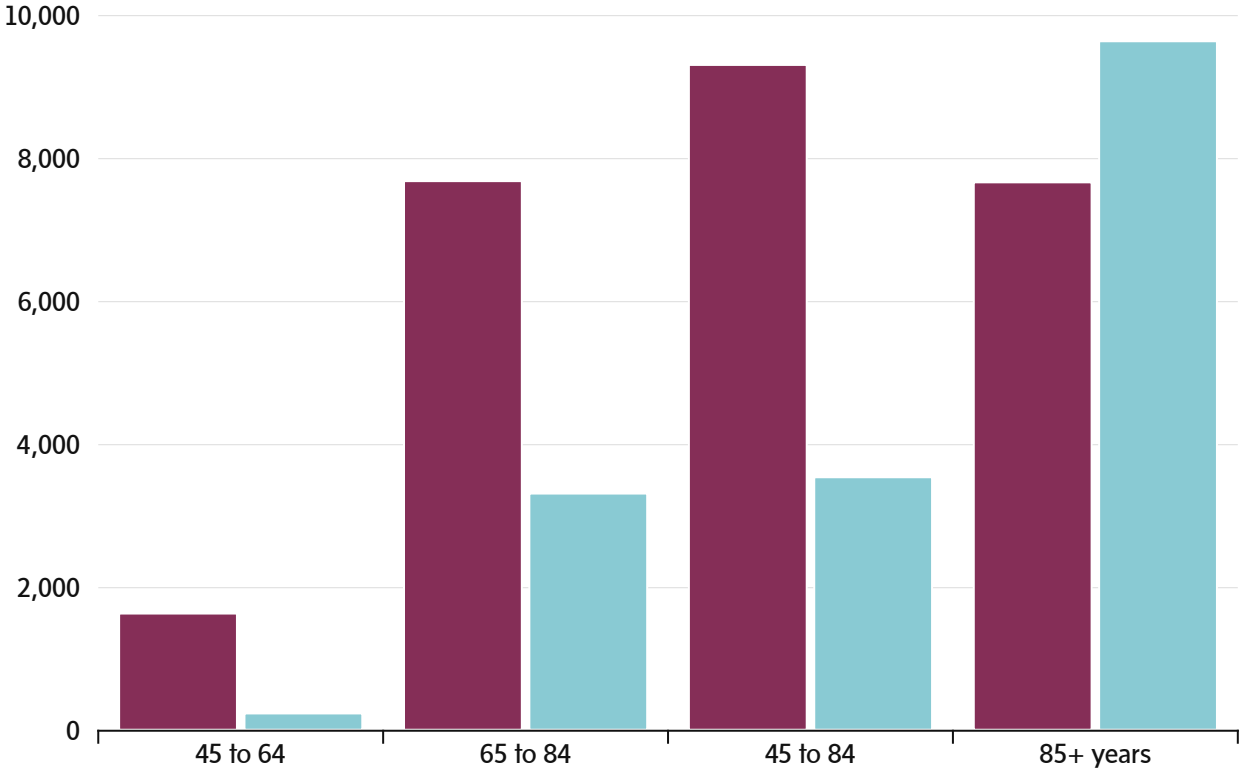
"It's essential to document [the deaths] to give value to the lives, for one thing – but also to exactly understand where we missed things," said Tara Moriarty, a professor of laboratory medicine and pathobiology at the University of Toronto who was the analysis's lead author.

The researchers looked at Canada's excess deaths – the number of deaths beyond what is expected in a specific period – during the first nine months of the pandemic and found they vastly exceeded the number of reported COVID-19 deaths. At the same time, the researchers were struck by the high proportion of COVID-19 deaths in long-term care homes. In Canada, such deaths were twice as prevalent, relative to deaths in other populations, as they were in similar countries.

Estimated excess deaths compared to reported COVID-19 deaths in Canada, by age group

Feb. 1–Nov. 18, 2020

Estimated excess deaths Reported COVID-19 deaths



THE GLOBE AND MAIL, SOURCE: THE ROYAL SOCIETY OF CANADA; NOTE: EXCESS DEATH ESTIMATES ARE ADJUSTED FOR DEATHS CAUSED BY TOXIC DRUG USE SUCH AS OPIOIDS.

DATA SHARE

Both anomalies could be traced to the same source, the researchers believed: Canada was failing to detect deaths from COVID-19 that happened outside of long-term care homes, where frequent outbreaks may have led to more intensive testing and more accurate infection counts.

The analysis points to some of the reasons infections outside of long-term care may not have been counted, including low testing rates and large data gaps in death reports from most provinces.

By May 17, 2021, according to the analysis, Canada had performed 25 tests for every positive COVID-19 case since the start of the pandemic, compared with a cumulative average of 98 tests for every positive case in all other Organization for Economic Co-operation and Development (OECD) countries. The researchers estimate a lack of testing could have led Canada to miss three-quarters of its COVID-19 cases.

The analysis also suggests Canada trailed peer countries in the speed and accuracy of postmortem testing. Unlike in all other OECD countries, Canada has no legal requirement to report all of its deaths and their causes within a week, which made it difficult for Canadian authorities to ascertain that people were dying of COVID-19 as it was happening.

Even in cases when COVID-19 was detected, the researchers say it wasn't always appropriately stated as a cause of death. They estimate that death reports listing the virus as a comorbidity, and not the main cause of death, could have accounted for about 30 per cent of excess deaths unattributed to COVID-19 by the end of the first wave.

Variations in how each province reported its mortalities probably made death rates between provinces appear much more disparate than they actually were, the researchers say. Quebec's proficiency in testing was part of the reason it appeared to have three times Canada's COVID-19 deaths per capita, they say, when the province probably had closer to to twice the deaths.

Meanwhile, slow reporting in the first wave could have contributed to making the cumulative number of deaths in the Prairies, the Northwest Territories and Atlantic Canada appear six times smaller than actual in people 40 years and over, while in British Columbia and Yukon the number could be four times higher than previously thought.

Some excess deaths could have occurred in elderly people living outside of long-term care homes, who died of the coronavirus without a caregiver or proper diagnosis to report or detect the virus, said Janet McElhaney, a geriatrician at the North Research Institute, who co-authored the analysis.

"Many of those deaths we missed are probably frail older people that really became disconnected from their communities because of social isolation," she said.

But the affected groups may have extended far beyond the elderly. The analysis posits economically precarious, racialized individuals were more vulnerable to the virus, because of poor social supports, dangerous work conditions, high-density living and language barriers in medical treatment.

"It's a product of systemic racism," said analysis co-author and public-health professional Eemaan Thind. "We need to provide more social assistance for communities facing the disproportionate burden ... things such as paid sick days."

The risk of working in large congregate settings was also widely underestimated in Canada, said journalist and analysis co-author Nora Loreto. Some of the country's biggest outbreaks happened in workplaces.

"Long after workplace outbreaks," Ms. Loreto said, "it was still being spoken about as if [COVID-19] was completely contained and there was no evidence of workplace spread. We weren't testing these people."

Dr. Moriarty said it is now critical to perform COVID-19 tests on people who die in any setting countrywide so we can better understand which demographics are particularly vulnerable to the virus. She said it is also important to work urgently to protect those most at risk by implementing intensive, frequent and accessible testing. She also called for improved public-health outreach and information, and for at-risk communities to be among the highest-priority recipients for both doses of COVID-19 vaccines, as inoculation becomes available for everybody.

She added she believes the health system works best for those who are well paid, highly educated and upper-middle class. “That does not reflect the lives of the majority of Canadians,” she said.

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